Goal 3: Ensure healthy lives and promote well-being for all at all ages

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Indicator 3.9.3: Mortality rate attributed to unintentional poisoning

# Institutional information

## Organization(s):

World Health Organization (WHO)

# Concepts and definitions

## Definition:

The mortality rate attributed to unintentional poisoning as defined as the number of deaths of unintentional poisonings in a year, divided by the population, and multiplied by 100 000.

## Concepts:

Mortality rate in the country from unintentional poisonings per year. The ICD-10 codes corresponding to the indicator includes X40, X43-X44, X46-X49.

## Rationale:

Measuring how the mortality rate from unintentional poisonings provides an indication of the extent of inadequate management of hazardous chemicals and pollution, and of the effectiveness of a country’s health system.

## Comments and limitations:

Data on deaths are widely available from countries from death registration data or sample registration systems, which are feasible systems, but good quality data are not yet available in all countries. Such data are crucial for improving health and reducing preventable deaths in countries. For countries that do not have such registration systems, data need to be completed with other types of information.

# Methodology

## Computation method:

The methods with agreed international standards have been developed, reviewed and published in various documents.

The methods used for the analysis of causes of death depend on the type of data available from countries.

For countries with a high-quality vital registration system including information on cause of death, the vital registration that member states submit to the WHO Mortality Database were used, with adjustments where necessary, e.g. for under-reporting of deaths.

For countries without high-quality death registration data, cause of death estimates are calculated using other data, including household surveys with verbal autopsy, sample or sentinel registration systems, special studies and surveillance systems. In most cases, these data sources are combined in a modelling framework.

Complete methodology may be found here:
http://www.who.int/healthinfo/global_burden_disease/GlobalCOD_method_2000_2012.pdf?ua=1

## Treatment of missing values:

- ***At country level:***

Data for missing country-years are interpolated or extrapolated, according to the data available. For countries with missing data, they are being provided by international agencies, which have been interpolated/ extrapolated, adjusted, and completed by additional data and cause-of-death models. A more detailed description of the methods is provided in
http://www.who.int/healthinfo/global_burden_disease/GlobalCOD_method_2000_2012.pdf

- ***At regional and global levels:***

NA

## Regional aggregates:

Country estimates of number of deaths by cause are summed to obtain regional and global aggregates

## Sources of discrepancies:

WHO is required by World Health Assembly resolution to consult on all WHO statistics, and seek feedback from countries on data about countries and territories. Before publishing all estimates undergo country consultations.

# Data sources

## Description:

Data inputs to the estimate include (a) data on WASH services and practices, and (b) cause-of-death data, of which the preferred data source is death registration systems with complete coverage and medical certification of cause of death. Other possible data sources include household surveys with verbal autopsy, sample or sentinel registration systems, special studies and surveillance systems.

## Collection process:

WHO collects data directly from country sources, and following established method, estimates are shared with countries to receive their feedback before publication. See Indicator 6.1 above for more details.

# Data availability

## Description:

**Data availability for period 2010 onwards:**

Asia and Pacific - 27% of countries (16 out of 59 countries, including China and India sample systems)

Africa - 6% of countries (3 out of 54 countries)

Latin America and the Caribbean - 56% of countries (19 out of 34 countries)

Europe, North America, Australia, New Zealand and Japan - 94% of countries (44 out of 47 countries, missing are mainly very small countries)

**Data availability (2000-2009):**

Asia and Pacific - 27% of countries (16 out of 59 countries, including China and India sample systems)

Africa - 6% of countries (3 out of 54 countries)

Latin America and the Caribbean - 56% of countries (19 out of 34 countries)

Europe, North America, Australia, New Zealand and Japan - 94% of countries (44 out of 47 countries, missing are mainly very small countries)

**Web link to the database:**

The latest global, regional and country-level cause-specific mortality estimates, including unintentional poisonings, for the year 2000 and 2012 (published in 2014) are available for download from the WHO website.
http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html The estimates can also be accessed interactively through the Global Health Observatory
http://www.who.int/gho/mortality_burden_disease/en/

## Time series:

Limited time series data is available (comparable series for years 2012 and soon 2015; data for 2000 are also available but have more limited comparability)

## Disaggregation:

Data can be disaggregated by age group, sex and disease.

# Calendar

### Data collection:

Ongoing

### Data release:

End of 2016

## Data providers

National statistics offices, various line ministries and databases covering civil registration with complete coverage and medical certification of cause of death.

## Data compilers

WHO

## References

### URL:

http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html

### References:

WHO indicator definition (http://apps.who.int/gho/data/node.imr.SDGPOISON?lang=en)

WHO methods and data sources for global causes of death, 2000–2012 (http://www.who.int/healthinfo/global_burden_disease/GlobalCOD_method_2000_2012.pdf?ua=1)

## Related indicators as of February 2020

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology